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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/028,698	12/28/2001	Yoshinori Hayashi	217049US2	3959
22850	7590	07/30/2004		EXAMINER
				ALLEN, DENISE S
			ART UNIT	PAPER NUMBER
				2872

DATE MAILED: 07/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	10/028,698	HAYASHI, YOSHINORI <i>OK</i>
Examiner	Art Unit	
Denise S Allen	2872	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

1)  Responsive to communication(s) filed on 15 April 2004 and 13 May 2004.

2a)  This action is FINAL.                            2b)  This action is non-final.

3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## **Disposition of Claims**

4)  Claim(s) 1-5,7-19 and 21-30 is/are pending in the application.  
4a) Of the above claim(s) 1-3,5,7,9,11,13,15-17,19,21,23,25,27 and 29 is/are withdrawn from consideration.

5)  Claim(s) \_\_\_\_\_ is/are allowed.

6)  Claim(s) 4,8,10,12,14,18,22,24,26,28 and 30 is/are rejected.

7)  Claim(s) \_\_\_\_\_ is/are objected to.

8)  Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

9)  The specification is objected to by the Examiner.

10)  The drawing(s) filed on 28 December 2001 is/are: a)  accepted or b)  objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)  The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a)  All    b)  Some \* c)  None of:  
1.  Certified copies of the priority documents have been received.  
2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1)  Notice of References Cited (PTO-892)  
2)  Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3)  Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
    Paper No(s)/Mail Date \_\_\_\_\_  
4)  Interview Summary (PTO-413)  
    Paper No(s)/Mail Date. \_\_\_\_\_  
5)  Notice of Informal Patent Application (PTO-152)  
6)  Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on April 15, 2004 has been entered.

### ***Information Disclosure Statement***

The information disclosure statements (IDS) submitted on May 26, 2004 and June 18, 2004 did not include forms PTO-1449. Accordingly, it is noted here that the references listed in the information disclosure statements have been considered by the examiner.

### ***Response to Arguments***

Applicant's arguments with respect to claims 4, 14, 18, 28, and 30 have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4, 8, 10, 12, 14, 18, 22, 24, 26, 28, and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kataoka et al (US 4,561,717) in view of Shiraishi (US 5,715,078).

Regarding claims 4, 14, 18, 28, and 30, Kataoka et al teaches an optical scanning device (Figure 4), comprising: a plurality of scanning optical systems configured to scan different scanning surfaces (references 9 and 10), each of the scanning optical systems comprising: a light source (references 19 and 20) configured to emit a light flux (references 1 and 2); a deflector (reference 3) configured to scan the light flux emitted from the light source, wherein the deflector is commonly used in the plurality of scanning optical systems; a plurality of scanning lenses (references 5, 11, and 12) configured to condense the scanned light flux to the scanning surface; an optical path inflection mirror (references 13 and 14) configured to inflect the scanned light flux; and an imaging lens (references 15 and 16) configured to lead the light flux emitted from the light source to the deflector, wherein the plurality of scanning optical systems are provided in a sub-scanning direction (references 1 and 2 are arrayed in the sub-scanning direction as seen on the face of reference 3), and wherein a difference in a number of optical path inflection mirrors between two of the plurality of scanning optical systems is set to zero or an even number (both scanning optical systems have one optical path inflection mirror, therefore the difference in the number of inflection mirrors is zero), and wherein the optical path inflection mirror is configured among the plurality of scanning lenses (reference 13 is between references 5 and 11; and reference 14 is between reference 5 and 12). Kataoka et al does not teach the imaging lens includes a resin lens and the optical path inflection mirror is configured to decrease an amount of change in a relative scanning position of each scanning optical system caused by a temperature fluctuation in the plurality of scanning optical systems.

Shiraishi teaches the imaging lens includes a resin lens (column 5 lines 12 – 13). It would have been obvious to one of ordinary skill in the art at the time of the invention to use the resin

lens of Shiraishi et al in the optical scanning device of Kataoka et al in order to reduce the cost of manufacturing the optical scanning device.

Shiraishi teaches an optical path inflection mirror (column 14 line 65 – column 15 line 21) configured to decrease the amount of change in a relative scanning position of a scanning optical system caused by a temperature fluctuation. It would have been obvious to one of ordinary skill in the art at the time of the invention to use the temperature compensating configuration of the optical path inflection mirror of Shiraishi in the optical scanning device of Kataoka et al in order to improve the registration of the scanning line in light of temperature variations.

Regarding claims 8 and 22, Shiraishi teaches the imaging lens (reference 17) comprises a resin lens (column 5 lines 12 – 13).

Regarding claims 10 and 24, Shiraishi teaches a housing (Figure 1 reference 15) configured to support the light source (references 3B, 3C, 3M, and 3Y) and the imaging lens (reference 17B, 17C, 17M, and 17Y).

Regarding claims 12 and 26, Shiraishi teaches the imaging lens is directly affixed to the housing (column 5 lines 15 – 20).

Regarding claims 14 and 28, Kataoka et al teaches an image forming apparatus (Figure 6), comprising: a transfer sheet feeding device (references 24 and 25); and an optical scanning device as described above.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Denise S Allen whose telephone number is (571) 272-2305. The examiner can normally be reached on Monday - Friday, 9:00am - 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew A Dunn can be reached on (571) 272-2312. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Denise S Allen  
Examiner  
Art Unit 2872

  
dsa



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